Annual Report

Production Sector

Company Information

Partner Address Label Here

If the information provided above is incorrect, please make corrections below

Company Name: BP

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Position: Environmental Advisor

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Annual Report Summary

Please mark the Best Management Practices your company implemented and submit a report page for only those practices

☐ BMP 1: Identify and replace high-bleed pneumatic devices

☐ BMP 2: Install flash tank separators on glycol dehydrators

☒ BMP 3: Partner Reported Opportunities (*Please specify)*

Green Completions, "Smart" Automation Well Unloading and Plunger Lift Control, Pneumatic Pump Replacement

Period covered by report: From: 1/1/2005 To: 12/31/2005

Signature:
Gordon R. Smith

Date: 5/31/2006

Production Sector Annual Report

BMP 3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Activity description: Please provide a separate PRO reporting form for each activity reported

Check one of the following:

- ☐ Install vapor recovery units (VRUs)
- ☐ Install flares
- ☐ Install electronic safety devices
- ☐ Install instrument air systems
- ☐ Eliminate unnecessary equipment and/or systems
- ☒ Other *(Please specify)*: "Smart" Automation well and plunger controllers to reduce well venting for liquids unloading

Well venting to unload liquids from well-bores is identified as a significant source of methane emissions. In our NW New Mexico operations, we begin installing "Smart" automation well and plunger system controllers in 2000 with the system becoming operational (phased) in mid 2001. Since becoming fully operational in mid 2002 we have been further improving the control algorithims and optimizing system performance.

B. Level of Implementation *(check one)*:

- ☒ Number of units installed: 2153 units
- ☐ Frequency of practice: _____ times/year

C. Are these emissions reductions *(check one)*:

- ☐ Continuing/ongoing
- ☒ One-time – Annual total volume report – The historical reductions were maintained with some incremental in 2004.

D. Methane emissions reduction: 2,103,673 Mcf

E. Cost summary: Estimated cost of practice (including equipment and labor): $ 12.2 MM (one time cost in 2000-2001)

Please identify the basis for the emissions reduction estimate, using the space provided to show any calculations

- ☐ Actual field measurement
- ☐ Calculation using manufacturer specifications/other source
- ☒ Other (*Please specify)*

Measurement to determine the amount of venting from wells in each producing formation was conducted. The amount of venting is tracked daily, and summed monthly, quarterly and annually. The volume reported is the total reduced in 2005 vs. the baseline prior to project start. The intent is to report total volume annually against the pre project baseline (2000).

F. Total value of gas saved: **$ 7.363 MM** (@ $3.5)

Total value of gas saved
= Methane emission reduction (in Mcf)
x Gas value (in $/Mcf) [If not known, use default of $3.00/Mcf]

G. To what extent do you expect to implement this practice next year?

Total reductions against the baseline prior to project inception will be reported annually. Progress in further reductions will be maintained.

Previous Years' Activities

Use the table below to report any past implementation of this PRO, but not previously reported to Natural Gas STAR

Year	Practice/Activity	Total Cost of Practice/Activity (incl. equipment and labor) ($)	Estimated Reductions (Mcf)	Value of Gas Saved ($)

BMP 3 Comments/Additional Benefits: In addition to reduced venting, liquid loading of the wells is reduced and production is increased. Due to the large number of variables that impact production, there is no estimate available for the positive impact of this system on production.

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Production Sector Annual Report

BMP 3: Partner Reported Opportunities (PROs)

Current Year Activities

A. Activity description: Please provide a separate PRO reporting form for each activity reported

Check one of the following:

- ☐ Install vapor recovery units (VRUs)
- ☐ Install flares
- ☐ Install electronic safety devices
- ☐ Install instrument air systems
- ☐ Eliminate unnecessary equipment and/or systems
- ☒ Other *(Please specify)*: Green Completions - Wyoming

This project is a change in well clean-up and completion procedures to collect and sell gas rather than flaring and/or venting gas while cleaning up and flow testing new and recompleted wells. This report describes 2005 activities in the Greater Green River basin of Wyoming.

B. Level of Implementation *(check one)*:

- ☐ Number of units installed: _____ units
- ☐ Frequency of practice: _____ times/year

C. Are these emissions reductions *(check one)*:

- ☐ Continuing/ongoing
- ☒ One-time – Annual reports will be filed

D. Methane emissions reduction: 23,501 Mcf
(1,175,087 MCF gas sold rather than flared)

E. Cost summary: Estimated cost of practice (including equipment and labor): $ 300,000

Please identify the basis for the emissions reduction estimate, using the space provided to show any calculations

- ☒ Actual field measurement
- ☐ Calculation using manufacturer specifications/other source
- ☒ Other (*Please specify)*

Actual metered flow rates were used with the methane calculated using the EPA's flare efficiency factor of 98% destruction (2% methane slip)
Actual gas sold rather than flared was ~ 1,175,087 mcf.
This also eliminated about 69,000 tons of CO2 emissions.

F. Total value of gas saved: **$ 4.113 MM** (@$3.5)

Total value of gas saved
= Methane emission reduction (in Mcf)
x Gas value (in $/Mcf) [If not known, use default of $3.00/Mcf]

G. To what extent do you expect to implement this practice next year?
We are using this practice on most new/recompleted wells in the target fields and shall continue to use the equipment and techniques into the future.

Previous Years' Activities

Use the table below to report any past implementation of this PRO, but not previously reported to Natural Gas STAR

Year	Practice/Activity	Total Cost of Practice/Activity (incl. equipment and labor) ($)	Estimated Reductions (Mcf)	Value of Gas Saved ($)

BMP 3 Comments/Additional Benefits: *Please describe any additional economic, operational, environmental, or safety benefits achieved by implementing this practice. Use the back of the page for additional space if needed*
The equipment purchase capital to enable this process was spent in 2001 with only the incremental costs associated with use in 2005. If capital recovery is considered (5 year, 20% return) an additional $468,000 should be added the reported cost although the total capital was included in the 2001 report.

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BMP 3: Partner Reported Opportunities (PROs)

Current Year Activities

H. Activity description: Please provide a separate PRO reporting form for each activity reported

Check one of the following:

- ☐ Install vapor recovery units (VRUs)
- ☐ Install flares
- ☐ Install electronic safety devices
- ☐ Install instrument air systems
- ☐ Eliminate unnecessary equipment and/or systems
- ☒ Other *(Please specify)*: Green Completions -Oklahoma

This project is a change in well clean-up and completion procedures to collect and sell gas rather than flaring and/or venting gas while cleaning up and flow testing new and recompleted wells. This report describes 2005 activities in the Arkoma basin of Oklahoma. Additionally, the addition of the completion/clean-up separation equipment allowed flaring rather than venting during completion and clean-up.

I. Level of Implementation *(check one)*:

- ☐ Number of units installed: _____ units
- ☐ Frequency of practice: _____ times/year

J. Are these emissions reductions *(check one)*:

- ☐ Continuing/ongoing
- ☒ One-time – Annual report to be filed

K. Methane emissions reduction: 1,054,522 Mcf

E. Cost summary: Estimated cost of practice (including equipment and labor): $ 280,000

Please identify the basis for the emissions reduction estimate, using the space provided to show any calculations

- ☒ Actual field measurement
- ☐ Calculation using manufacturer specifications/other source
- ☒ Other (*Please specify)*

Actual metered flow rates were used with the methane calculated using the EPA's flare efficiency factor of 98% destruction (2% methane slip) for gas flared versus gas vented and 94.5 mol% methane for venting reduced by recovery for sales.
Actual gas sold rather than vented was ~ 939,938 mcf with an additional ~116,922 mcf flared rather than vented.

F. Total value of gas saved: **$ 3.290 MM** (@$3.5) (for sales portion only)

Total value of gas saved
= Methane emission reduction (in Mcf)
x Gas value (in $/Mcf) [If not known, use default of $3.00/Mcf]

L. To what extent do you expect to implement this practice next year?
We are using this practice on all new/recompleted wells in the basin fields and shall continue to use the equipment and techniques into the future.

Previous Years' Activities

Use the table below to report any past implementation of this PRO, but not previously reported to Natural Gas STAR

Year	Practice/Activity	Total Cost of Practice/Activity (incl. equipment and labor) ($)	Estimated Reductions (Mcf)	Value of Gas Saved ($)

BMP 3 Comments/Additional Benefits: Using this technique also allows the wells to be put on production earlier with increased sales although this "value" is not considered above.

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BMP 3: Partner Reported Opportunities (PROs)

Current Year Activities

M. Activity description: Please provide a separate PRO reporting form for each activity reported

Check one of the following:

- ☐ Install vapor recovery units (VRUs)
- ☐ Install flares
- ☐ Install electronic safety devices
- ☐ Install instrument air systems
- ☐ Eliminate unnecessary equipment and/or systems
- ☒ Other *(Please specify)*: Green Completions -Colorado

This project is a change in well clean-up and completion procedures to collect and sell gas rather than flaring and/or venting gas while cleaning up and flow testing new and recompleted wells. This report describes 2005 activities in the North San Juan basin of Colorado.

N. Level of Implementation *(check one)*:

- ☐ Number of units installed: _____ units
- ☐ Frequency of practice: _____ times/year

O. Are these emissions reductions *(check one)*:

- ☐ Continuing/ongoing
- ☒ One-time – Annual report to be filed

P. Methane emissions reduction: 9,722 Mcf

E. Cost summary: Estimated cost of practice (including equipment and labor): $ 35,000

Please identify the basis for the emissions reduction estimate, using the space provided to show any calculations

- ☒ Actual field measurement
- ☐ Calculation using manufacturer specifications/other source
- ☐ Other (*Please specify)*

Actual metered flow rates of gas recovered/sold were used coupled with the methane content of the gas.

F. Total value of gas saved: **$ 34 K** (@$3.5) (for sales portion only)

Total value of gas saved
= Methane emission reduction (in Mcf)
x Gas value (in $/Mcf) [If not known, use default of $3.00/Mcf]

Q. To what extent do you expect to implement this practice next year?

We are continuing to pilot and improve this practice on new/recompleted wells in the San Juan North basin. Currently, this is essentially a "break even" process. Our intention is to continue working on improving the efficiency and economics of this practice as applied in the basin.

Previous Years' Activities

Use the table below to report any past implementation of this PRO, but not previously reported to Natural Gas STAR

Year	Practice/Activity	Total Cost of Practice/Activity (incl. equipment and labor) ($)	Estimated Reductions (Mcf)	Value of Gas Saved ($)

BMP 3 Comments/Additional Benefits: *Please describe*

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BMP 3: Partner Reported Opportunities (PROs)

Current Year Activities

R. Activity description: Please provide a separate PRO reporting form for each activity reported

Check one of the following:

- ☐ Install vapor recovery units (VRUs)
- ☐ Install flares
- ☐ Install electronic safety devices
- ☐ Install instrument air systems
- ☐ Eliminate unnecessary equipment and/or systems
- ☒ Other *(Please specify)*: Solar Methanol Pump Replacement

This project is the replacement of pneumatic gas driven methanol and chemical pumps with solar powered units in our Moxa Arch Field of Wyoming. This report reflects 2005 activity.

S. Level of Implementation *(check one)*:

- ☒ Number of units installed: 200 units
- ☐ Frequency of practice: ! ! ! ! ! times/year

T. Are these emissions reductions *(check one)*:

- ☒ Continuing/ongoing
- ☐ One-time – Annual report to be filed

U. Methane emissions reduction: 8,640 Mcf

E. Cost summary: Estimated cost of practice (including equipment and labor): $ 60,200

Please identify the basis for the emissions reduction estimate, using the space provided to show any calculations

- ☐ Actual field measurement
- ☒ Calculation using manufacturer specifications/other source
- ☐ Other (*Please specify)*

Pump curves coupled with methanol use were used to determine the volume saved. The volumes included are full year.

F. Total value of gas saved: **$ 30 K** (@$3.5) (for sales portion only)

Total value of gas saved
= Methane emission reduction (in Mcf)
x Gas value (in $/Mcf) [If not known, use default of $3.00/Mcf]

V. To what extent do you expect to implement this practice next year?

We are continuing to replace pneumatic gas driven pumps with solar powered pumps. We expect to broaden the application to other fields.

Previous Years' Activities

Use the table below to report any past implementation of this PRO, but not previously reported to Natural Gas STAR

Year	Practice/Activity	Total Cost of Practice/Activity (incl. equipment and labor) ($)	Estimated Reductions (Mcf)	Value of Gas Saved ($)

BMP 3 Comments/Additional Benefits: The solar powered pumps allow more precise control of methanol use, much less maintenance, and greater reliability. Savings associated with lower methanol use and maintenance are substantial. The operations group judges the overall economics to be positive although they have not been tightly quantified.